

**IN THE CLAIMS:**

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1. (Amended) A method of diagnosing endometrial irregularities comprising the step of screening an endometrial sample ~~endometrial fluid, endometrial serum, urine, or saliva~~ for the presence of the endometrial bleeding associated factor (*ebaf*) splice variants, or the proteins encoded by *ebaf* that are differentially expressed compared to controls.

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4. (Amended) A diagnostic tool for determining the presence of endometrial irregularities comprising:

screening means for screening an endometrial sample, endometrial fluid, endometrial serum, urine, or saliva for the presence of *ebaf*.

5. (Amended) The diagnostic tool according to claim 4, wherein said screening means is a Northern blot kit.

6. (Amended) The diagnostic tool according to claim 4, wherein said screening means is a Western blot kit.

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8. (Amended) The diagnostic tool according to claim 4, wherein the protein encoded by *ebaf* is detected.

9. (Amended) The diagnostic tool according to claim 4, wherein said screening means detects mRNA encoding *ebaf*.

10. (Amended) The diagnostic tool according to claim 4, wherein the endometrial irregularity being screened is infertility.

11. (Amended) The diagnostic tool according to claim 4, wherein the endometrial irregularity being screened is endometriosis.

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12. (Amended) The diagnostic tool according to claim 4, wherein the endometrial irregularity being screened is abnormal uterine bleeding.

Please cancel claim 14. ✓

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15. (Amended) A diagnostic kit for timing conception comprising screening means for screening an endometrial sample, endometrial fluid, endometrial serum, urine, or saliva for the presence of *ebaf*.

16. (Amended) The diagnostic kit according to claim 15, wherein the *ebaf* is a protein encoded by *ebaf*.

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18. (Amended) A method of treating endometrial irregularities comprising administering a compound for down-regulating the expression of *ebaf*.

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19. (Amended) A method for determining endometrial receptivity level by determining the levels of *ebaf* by sampling endometrial tissue, endometrial fluid, endometrial serum, urine, or saliva.

20. (Amended) A method for determining endometrial receptivity level by determining the levels of *ebaf* in an endometrial sample, endometrial fluid, endometrial serum, urine, or saliva by immunoassay.

21. (Amended) A method for determining endometrial receptivity level by determining the levels of *ebaf* in an endometrial sample, endometrial fluid, endometrial serum, urine, or saliva by immunohistology.

22. (Amended) A method for determining endometrial receptivity level by determining the levels of *ebaf* in an endometrial sample, endometrial fluid, endometrial serum, urine, or saliva by PCR.

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23. (Amended) A method for determining endometrial receptivity level by determining the levels of *ebaf* in an endometrial sample, endometrial fluid, endometrial serum, urine, or saliva by northern, western, or southern blot.

24. (Amended) A method of diagnosis and prognosis of infertility by determining optimal treatment or treatment response by determining *ebaf* levels in an endometrial sample, endometrial fluid, endometrial serum, urine, or saliva.

25. (Amended) A method of diagnosis and prognosis of endometriosis by determining optimal treatment or treatment response by determining *ebaf* levels in an endometrial sample, endometrial fluid, endometrial serum, urine, or saliva.

26. (Amended) A method of diagnosis and prognosis of menometrorrhagia by determining optimal treatment or treatment response by determining *ebaf* levels in an endometrial sample, endometrial fluid, endometrial serum, urine, or saliva.

27. (Amended) An isolated and purified antisera directed to *ebaf*.

28. (Amended) An isolated and purified marker present in bodily fluids in an endometrial sample, endometrial fluid, endometrial serum, urine, or saliva for determining endometrial receptivity comprising *ebaf*.

29. (Amended) An isolated and purified marker in bodily fluids for infertility, comprising *ebaf*.

32. Please cancel claim 32.

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39. (Amended) An isolated and purified peptide comprising CASDGALVPRRLQHRP-amide (SEQ Id No.: 3).

40. (Amended) A detection device for detecting the presence of at least one variant of *ebaf* in an endometrial sample, endometrial fluid, endometrial serum, urine, or saliva.